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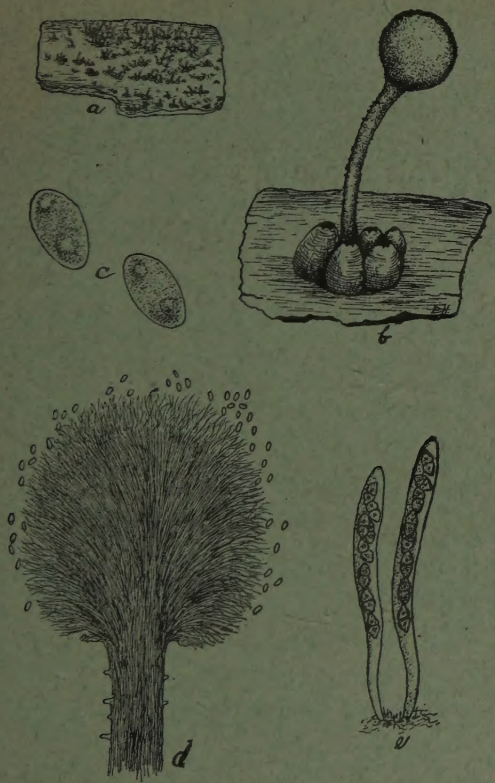
JUNE, 1907

NO. 78

MYCOLOGICAL BULLETIN

W. A. KELLERMAN, Ph. D.

OHIO STATE UNIVERSITY



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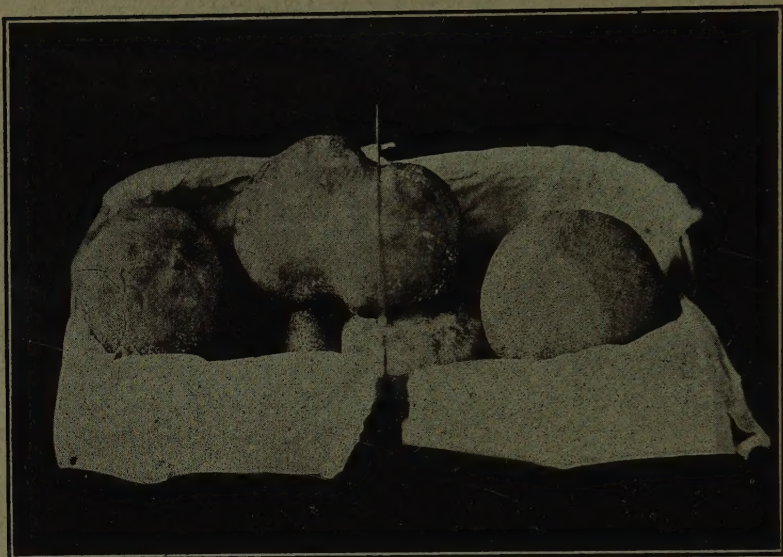
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Mycological Bulletin

No. 78

W. A. Kellerman, Ph. D., Ohio State University

Columbus, Ohio, June, 1907.

EDITOR'S NOTES.

We are indebted to Miss Hyde for an interesting account and illustrations of a little bark-inhabiting fungus.

Then Mr. Smith, teacher in the High School of Akron, places us under obligation also. He gives us an account of a rare plant. We have seen many of his photographs of fungi, besides the one that illustrates his *Peziza*. We never saw finer ones—strong language but justifiable. We will insist that he furnish may of them for use in future numbers of the Bulletin.

Mushroom literature is abundant and we resume our notes in that field, even at the risk of bordering strongly on the technical. Professor Atkinson has in the past few years described many new species. His descriptions are very full and careful and therefore we desire to copy as many of them as space will permit.

SCLEROTINIA TUBEROSA; TUBEROUS PEZIZA.

G. D. SMITH, AKRON, OHIO.

This is one of the very rare *Pezizas* that produces a sclerotium at the base, and has been found but few times in this country. It is said to be much more common in Europe. The photograph illustrates very nicely the general appearance of the plants. They grow in rich, shady woods, sometimes unprotected, but more often near stumps, logs, or the projecting roots of trees. I have never found them except in early spring, from April 15 to May 20. These shown in the photograph (Fig. 249) were found April 30, in a ravine about two miles north of Akron, Ohio. I noticed that they were very sensitive to different temperatures in the explosion of their spores. When I would hold them in the warm sun for a minute and then pass them suddenly into the shade there would be a cloud of spores sent forth. I also noticed that a sudden breeze would produce the same result. I then tried blowing my breath on them and the response was still greater. This I repeated



Fig. 249.—SCLEROTIN'-I-A TU-BER-O'-SA. Phot. G. D. Smith, Akron, Ohio.

several times, the results diminishing with each repetition until they finally ceased to respond. I now noticed that the spore surface that had been most active in exploding the spores had become quite moist.

After they had rested for some minutes I repeated the experiment with the same result but not so strong as at first. I then put them in a closed box and did not open it until I was inside a warm room. When I removed the lid a dense cloud of spores arose to meet my gaze. I again tried blowing on them and found them very active until exhausted. They vary in color from tan to a rich brown.



A LITTLE CORTICICOLOUS FUNGUS.

EDITH HYDE.

At the request of the editor of the Mycological Bulletin I have studied and figured an interesting little fungus that grows on bark as indicated in the title. The specimens were collected in Jamaica by A. E. Wight and our material was received from Dr. Farlow, of Harvard University.

The botanical name of the plant is *Sphaerostilbe cinnabarina*; it belongs to the large group called the *Ascomycetes*. In this group the fruit or spore-bearing portion may be open and somewhat cup-shaped or saucer-shaped; or it may be nearly or quite closed and more or less globular or pear-shaped. In the first case the name *Discomycetes* is applied to the plants; in the second case they are called *Pyrenomycetes*. It is to the latter group that the *Sphaerostilbe* belongs.

The dry specimens examined were of a dark reddish-brown color, the lower portion of the stem being much darker than the upper portion. The tiny plants are clustered on the bark not densely, but as trees in an open woods, as shown in Figure 2 at a. It will be seen that the upright stem is not the entire plant; the lower portion is made up of a number of globular or slightly pear-shaped bodies clustered about the base of the upright stems (see fig. b). These are the *perithecia*, a greek word which means pockets; these pockets or perithecia, contain spores as will be explained presently.

An inspection of the figures already referred to, will show that the upright portion or stem is decidedly enlarged at the upper end and here also spores are borne.

There are two kinds of spores borne by this *Sphaerostilbe*, very different each from the other, but both microscopic. Covering the upper end or head of the upright stem are myriads of little threads which are directed outwards and on the tip of each is borne a small body called a conidium. Each one is oval or very slightly egg-shaped. The threads, which are really tiny tubes, are called *conidiophores*; the word means bearers of the *conidia*.

The drawing marked c in the figure shows two conidia very much enlarged. The one at d is a diagram and shows the real structure of the conidiophore, or rather the stem or stipe which bears the multitude of conidiophores. As can be seen, there are innumerable threads or tiniest tubes joined side by side and compacted into a rather firm stem or stipe. These spread out and seem to be multiplied to form the head; the outer fringe of hairs produce the spores as has been explained.

The other kind of spores is to be sought for in the perithecia or globular pockets forming the base of the plant and flanking the upright stem. Unfortunately they were sterile in the specimens examined. But a copy of such spores was taken from *Pflanzenfamilien*, a large illustrated

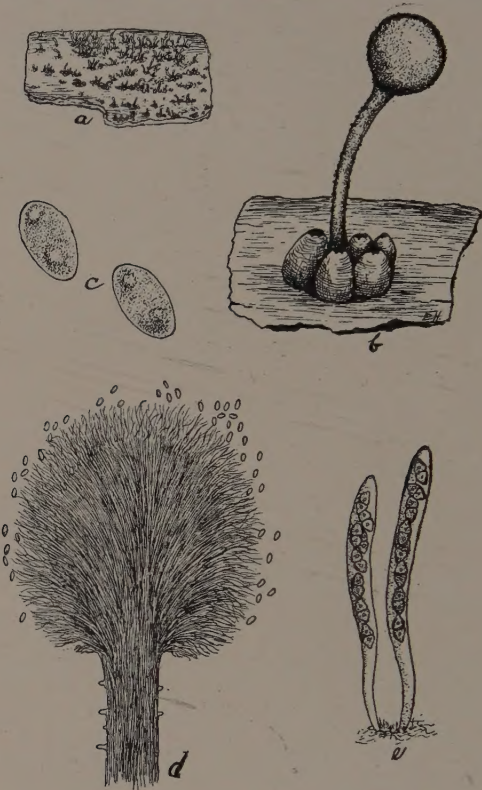


Fig. 250.—*SPHAEROSTILBE CINNABARINA*. A bark-loving fungus, occurring in the Southern States and southward. Figures made from specimens collected in Jamaica, except *e* which was copied from *Pflanzenfamilien*. Drawings by Edith Hyde.

German botany, and shows the spores of a closely related species.

This second kind of spores are borne in an enlarged elongated cell, called an *ascus*; the spores are accordingly called *ascospores*. In this case there are eight spores in each *ascus* and each spore consists of two parts, that is, each is two-celled.

Sphaerostilbe cinnabarina has been reported from Ceylon, Mexico, Cuba, and the Southern United States. When it was first found in Cuba it was named *Stilbum cinnabarinum*, by Montagne, a French botanist, who had however only the upright capitate stem—at least that is the portion to which the original description refers. Later when the basal bulbs, bearing the ascospores, were found and described, the correct place for this fungus in classification was recognized; accordingly it was placed in the genus *Sphaerostilbe*. There was no occasion of course for changing the first species-name;—and therefore, the plant is called in botanical literature *Sphaerostilbe cinnabarina*. The name *Stilbum cinnabarinum* is a synonym, and alludes to the conical stage only.

NOTES FROM MUSHROOM LITERATURE. VI.

W. A. KELLERMAN.

The report of the state botanist, 1905, New York State Museum Bulletin 105 Botany 9, by Charles H. Peck, was issued August, 1906. In size, character, etc., it is similar to the several preceding reports. The species of fungi illustrated by the colored plates are the following: *Marasmius longistriatus* Pk., *Clitopilus squamulosus* Pk., *Entoloma flavifolium* Pk., *Boletus acidus* Pk., *Tricholoma unifactum* Pk., *Lactarius rimosellus* Pk., *Lactarius seriffuus* (DC.) Fr., *Russula albida* Pk., *Russula flavida* Pk., *Russula sordida* Pk., *Russula subsordida* Pk., *Russula viridella* Pk., *Russula variata* Banning, *Clavaria conjuncta* Pk., and *Hypomyces lactuflorum* (Schw.) Tul. Nearly twenty new species of fungi are described, many of them belonging to the groups of Mushrooms. A short section of the Report is devoted to edible Fungi; besides the description, a short general account is given of each of the species tested; the following are included: One species of *Tricholoma*, two of *Lactarius*, four of *Russula*, and one each of *Clavaria* and *Hypomyces*.

A NEW *ENTOLOMA* FROM CENTRAL OHIO.—Under this title George F. Atkinson describes a mushroom in THE JOURNAL OF MYCOLOGY for November, 1906. Our Figures 251 and 252 were made from the photographs of the plants. We reproduce also Professor Atkinson's entire article, which is as follows:

"Specimens, notes and photograph of a fungus that proves to be new were received from Prof. W. A. Kellerman. The following diagnosis is given:

ENTOLOMA SUBCOSTATUM Atkinson n. sp.—On grassy ground, Campus, Ohio State University, Columbus, Ohio. Coll., R. A. Young, Com. W. A. Kellerman. No. 4970. Received Nov. 1, 1906.

Plants gregarious or in troops or clusters, 6-8 cm high; pileus 4-8 cm. broad; stems 1-1.5 cm. thick.

Pileus dark gray to hair brown or olive brown, often subvirgate with darker lines; gills light salmon color, becoming dull; stem same color as pileus but paler, in drying the stems usually becoming as dark as the pileus.

Pileus subviscid when moist, convex to expanded, plane or subgibbous, not umbonate, irregular, repand, margin incurved, flesh white, rather thin, very thin toward the margin.

Gills broad, 1-1½ cm. broad, narrowed toward the margin of the pileus, deeply sinuate the angles usually rounded, adnexed, easily becoming free, edge usually plane, sometimes connected by veins, sometimes costate, especially toward the margin of the pileus.

Basidia 4-spored.

Spores subglobose, about six angles, 8-10 μ in diameter, some slightly longer in the direction of the apiculus, pale rose under the microscope.

Stems even, fibrous striate, outer bark subcartilaginous, flesh white, stuffed, becoming fistulose.

Odor somewhat of old meal and nutty, not pleasant; taste similar.

Related to *E. prunuloides* Fr. and *E. clypeatum* Linn. Differs from the former in dark stem and uneven pileus, differs from the latter in being subviscid, even stem and pileus not umbonate and much more irregular, and differs from both in subcostate gills."

SEVERAL NEW MUSHROOMS.—On p. 234 we gave Professor Atkinson's descriptions of some new species and now make room to continue the quotations:



Fig. 251.—*ENTOLOMA SUBCOSTATUM*, Atkinson. See text.

AMANITA FLAVORUBESCENS Atkinson n. sp.—Plants scattered or gregarious, sometimes with the bases joined, 10-14 cm. high, caps 6-10 cm. broad, stems 6-12 mm. thick. *PILEUS* convex to expanded, smooth, with very faint striae on the margin, covered with thick, chrome yellow, floccose patches of the volva, margin of pileus yellow, center wood brown to raw umber, flesh thin, yellowish even under the brown cuticle over the center. *GILLS* long elliptical free, white, not crowded. *BASIDIA* clavate, 40-50x9-11 μ , 4-spored. *SPORES* oboval, granular, smooth, 8-10x6-8 μ . *TRAMA* of cap floccose, outer layer more compact and the threads slender. *STEM* even, with an ovate bulb, floccose scaly with fine floccose yellow scales above, and with reddish scales below. *ANNULUS* thin, membranous, yellow, 3 cm. from the apex of the stem, sometimes tearing into fragments. *VOLVA* yellow, breaking up into fragments.

This species is near *A. rubescens*, but the margin of the pileus, the volva, annulus and the upper part of the stem is canary yellow. Bruises of the pileus and the upper part of the stem do not turn red, (or only slightly so and very tardily), but bruises of the lower part of the stem turn slowly reddish. Ground, Coy Glen, Ithaca, N. Y., July 22, 1902, C. H. Kauffman, C. U. herb. No. 9884. The species has also been received from Connecticut and from Pennsylvania.

AMANITOPSIS ALBOCREATA Atkinson n. sp.—Plants 10-13 cm. high, pileus 5-8 cm. broad, stems 6-12 mm. thick. *PILEUS* convex to expanded, viscid when moist, white, or pale maize yellow in the center, or sometimes entirely pale maize yellow, finely striate and minutely tuberculate on the margin, covered with floccose patches of the volva which are easily removed when moist, but in drying become firmly agglutinated to the viscid surface; flesh very thin except at the center, white. *GILLS* rounded in front, narrowed behind, 3-6 mm. broad, free or slightly adnexed, edge floccose. *BASIDIA* 30-45x7-10 μ , 4-spored. *SPORES* globose, white, smooth, granular when young, with a large oil drop when old. Subhymenium of globose cells 6-12 μ in diameter. *TRAMA* of gills thin, middle layer of parallel cells, and from these the branches diverge as they descend in the trama. *TRAMA* of cap, inner portion of large cells, surface of minute slender threads. *STEMS* cylindrical, slightly tapering upward, white, minutely floccose mealy scales, hollow, abruptly enlarged below into a bulb. *VOLVA* ocreate, the limb narrow as in *A. pantherina*, sometimes very slight, the stem also sometimes with floccose patches of the upper part of the volva in irregular concentric rings on the lower part of the stem, the upper part of the volva forming floccose patches on the pileus.

This species differs from *A. nivalis* Grev., in the ocreate volva, that of *A. nivalis* Grev. being vaginate. *A. nivalis* of Peck, 42d Rept. N. Y. State Mu., p. 48, is probably identical. Ground in woods, Ithaca, N. Y. C. U. herb. No. 6097, Cascadilla woods, Miss Fisher, July 9, 1901; No. 9757, west shore Cayuga Lake, July 14, 1902. Miss A. T. Young; No. 9822, Beebe Lake woods, July 12, 1902, H. H. Whetzel.

BOLETUS CHAMAELEONTINUS Atkinson n. sp.—Plants 9-11 cm. high, pileus 8-10 cm. broad, stem 2 cm. thick. *PILEUS* convex, thick, flesh 2 cm. thick at the center, drab to hair brown, submentose and with minute appressed scales, later rimose areolate something like *B. scaber*, but the chinks not so deep; flesh white tinged with yellow, changing first to reddish then to blue, the red appearing first in the upper half, later spotted red and blue. *TUBES* convex, depressed around the stem, first yellowish, then reddish, in age the mouths tinged with red; tubes small, mouths round or uneven, changing to blue where bruised. *SPORES* olive yellow under the microscope, elliptical to oblong, smooth, 12-15x4-5 μ . *STEM* reddish all



Fig. 252.—*ENTOLOMA SUBCOSTATUM*. See text.

over or only at top and bottom, reticulate or dotted as in *B. luridus*, even or slightly enlarged below; flesh yellow, deep red just under the surface, center yellow changing to blue. Ground woods, Ithaca, N. Y. C. U. herb. No. 9842, July 19, 1902, and other dates.

BOLETUS UMBROSUS Atkinson n. sp.—Plants 8-10 cm. high, pileus 5-9 cm. broad, stems 1.5-2 cm. thick. *PILEUS* convex then expanded, fleshy, subtomentose and in age cracking into very fine areoles somewhat as in *B. subtomentosus*; flesh whitish very slowly changing to flesh color then brown; pileus mummy brown to walnut brown. *TUBES* convex, at first white, then becoming pale brown, in age deeper brown, when bruised becoming dark brown. *STEM* same color as the pileus but paler, broadly and irregularly furrowed or rugose longitudinally, with very minute dark points seen under the lens. Base of stem tapering into a short root. West shore Cayuga Lake, July 29, 1902, C. H. Kauffman, C. U. herb. No. 13067.

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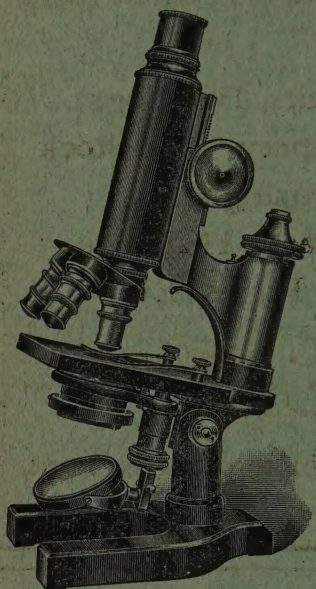
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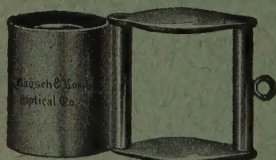
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